DOCKET NO. D-2005-001-4

DELAWARE RIVER BASIN COMMISSION

Sapa Extrusions, Inc.
Industrial Waste Treatment Plant
Cressona Borough, Schuylkill County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Sapa Extrusions, Inc. (docket holder) on April 1, 2013 (Application), for renewal of the docket holder's existing industrial wastewater treatment plant (IWTP) and its related discharge. Draft National Pollutant Discharge Elimination System (NPDES) Permit No. PA0012726 for this facility was issued by the Pennsylvania Department of Environmental Protection (PADEP) on June 23, 2014.

The Application was reviewed for approval under Section 3.8 of the *Delaware River Basin Compact (Compact)*. The Schuylkill County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on March 10, 2015.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew approval of the docket holder's existing IWTP and its related discharge of treated industrial process wastewater and non-contact cooling water (NCCW). The existing IWTP has a hydraulic design capacity of 0.20 million gallons per day (mgd); however, effluent limits in the NPDES permit are based on a discharge rate of 0.10 mgd. This docket also approves a total dissolved solids (TDS) determination of 2,000 mg/l (daily maximum) from the IWTP effluent. This is a reduction from the previous DRBC approval of 4,000 mg/l that was approved in DRBC Docket No. D-2005-001-3. There are no modifications to the existing IWTP proposed.

2. Location. The docket holder's aluminum forming and extrusion facility is located adjacent to the east of the intersection of Routes 901 and 183, between the West Branch Schuylkill River and the Reading Railroad tracks, in Cresson Borough, Schuylkill County, Pennsylvania. The IWTP will continue to discharge to the West Branch Schuylkill River, which is tributary to the Schuylkill River, at River Mile 92.5 – 115.0 – 0.5 (Delaware River – Schuylkill River– West Branch Schuylkill River).

The project outfalls are located in the Schuylkill River Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)	SOURCE
IMP No. 010*	40° 37' 53"	76° 11' 04"	IWTP effluent (treated process water, boiler blowdown, & NCCW)

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)	SOURCE
002	40° 37' 52"	76° 11' 07"	IWTP effluent, NCCW and stormwater
007	40° 37' 58"	76° 11' 00"	Stormwater and Ground Water Infiltration
008	40° 37' 59"	76° 11' 00"	Stormwater and Ground Water Infiltration
009	40° 38' 00"	76° 10' 56"	Stormwater and Ground Water Infiltration

* IMP No. 010: Internal Monitoring Point No. 010. IWTP effluent and NCCW combines with stormwater prior to discharging through Outfall No. 002 to the West Branch Schuylkill River

3. **Area Served**. The docket holder's IWTP will continue to serve the Sapa Extrusions aluminum forming and extrusion facility at the docket holder's facility in Cressona Borough, Schuylkill County, Pennsylvania.

For the purpose of defining the Area Served, Section B (Type of Discharge) and D (Service Area) of the docket holder's Application are incorporated herein by reference, to the extent consistent with all other conditions contained in the DECISION Section of this docket.

4. **Physical features**.

a. **Design criteria**. The docket holder's facility generates process industrial wastewater and NCCW in the production of manufactured aluminum products. The docket holder's IWTP is designed to treat up to 0.20 mgd and utilizes a dissolved air flotation treatment process to treat the process wastewater; however, effluent limits in the NPDES permit are based on a discharge rate of 0.10 mgd.

b. **Facilities**. Product quenching is the largest source of wastewater. Most of the wastewater sources at the project site are subject to the aluminum forming, extrusion subcategory, effluent limitation guidelines established at 40 CFR 467, Subpart C, including caustic die cleaning, hydraulic extrusion press leakage, press heat treatment contact cooling water and direct chill casting contact cooling water. Hot water from quenching operations is cooled in evaporative cooling towers and reused. There are three major cooling towers: Extrusion Cooling Tower, Old Ingot Cooling Tower, and New Ingot Cooling Tower. The Extrusion and New Ingot cooling towers require higher quality quench water than the Old Ingot cooling tower. Approximate blowdown rates for each system are 20,000 to 40,000 gallons per day.

In addition to the dissolved minerals originally in the makeup water and in the water treatment chemicals introduced into the cooling water, the blowdown contains oil and grease picked up during quenching. Since ingot casting employs mineral oil and castor oil for lubrication, the oil and grease content for that blowdown is higher than that from the Extrusion cooling tower. Moreover, the oil and grease is highly emulsified and cannot be removed without chemical aids. Besides quenching, considerable amounts of oil and grease are introduced into

the wastewater from floor drains in the production areas. Oil leakage from mechanical equipment, such as the extrusion presses, is the primary source of the oil and grease in the wastewater treatment plant influent. Other sources of wastewater include small amounts of acids and bases generated at the metallurgical laboratory, used aqueous parts washer solvent, and used soluble oil coolant generated from general machining of ferrous and nonferrous materials.

Wastewater generated by the production process is treated in an equalization tank to emulsify and breakdown oils and grease and to promote coagulation. After equalization, the wastewater is pumped through a flash mix tank and the pH is raised and flocculation promoted, allowing dissolved solids to precipitate. After flash mixing, an anionic polymer is added to further promote flocculation. Wastewater then flows by gravity to a dissolved air filtration unit to remove the majority of solids. Next, the wastewater is conveyed to a clarifier where floating solids are skimmed from the top while sludge settles to the bottom. Clarified wastewater is then further processed through two sand filters followed by carbon filtration and then released to the West Branch Schuylkill River. Sludge processing includes a holding tank where liquids are decanted. Decanted liquids are then returned to the influent pumping station for reprocessing.

The project facilities are not located in the 100-year floodplain.

Wasted sludge will continue to be hauled off-site by a licensed hauler for disposal at a state approved facility.

c. Water withdrawals. The potable water supply in the project service area is provided by the Schuylkill Haven Borough, which owns and operates a surface water intake located on Lower Tumbling Run and three (3) groundwater wells. The water withdrawals are described in detail in Docket Nos. D-1989-096 CP-1 and D-1989-096 CP (REVISED), which were approved on May 23, 1990 and December 11, 1991, respectively.

d. NPDES Permit / DRBC Docket. PADEP issued draft NPDES Permit No. PA0012726 for the project discharge on June 23, 2014, which includes final effluent limitations for the project discharge to surface waters classified by the PADEP as cold water and migratory fishery (CWF, MF). The IWTP is hydraulically designed to treat up to 0.20 mgd; however, effluent limits in the NPDES permit are based on a discharge rate of 0.10 mgd. The following average monthly effluent limits are among those listed in the NPDES permit that meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-1: DRBC Parameters Included in NPDES permit for the IWTP effluent at Internal Monitoring Point No. 010

INTERNAL MONITORING POINT NO. 010		
PARAMETER	**LIMIT**	**MONITORING**
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids (TSS)	218 lbs/day (average monthly) 413 lbs/day (maximum daily) See EFFLUENT TABLE A-2 below	As required by NPDES permit
Total Dissolved Solids (TDS)	See EFFLUENT TABLE A-2 below	As required by NPDES permit

The following average monthly effluent limits and monitoring requirements for IMP No. 010 are required by the DRBC and are not included in the NPDES permit.

EFFLUENT TABLE A-2: DRBC Requirements Not Included in NPDES permit for the IWTP Effluent at Internal Monitoring Point No. 010

INTERNAL MONITORING POINT NO. 010		
PARAMETER	**LIMIT**	**MONITORING**
Total Dissolved Solids *	2,000 mg/l (daily maximum)	Monthly
Total Suspended Solids (TSS)**	50 mg/l 85% minimum removal	Monthly
BOD (5-Day at 20^{o} C)	Monitor & Report***	Quarterly
Ammonia-Nitrogen	Monitor & Report***	Quarterly
Fecal Coliform	Monitor & Report***	Quarterly

* The draft NPDES permit includes a maximum daily TDS effluent limit of 4,000 mg/l; however this docket limits the discharge to a maximum daily effluent concentration of 2,000 mg/l. See the FINDINGS section and DECISION Condition II.p.

** The draft NPDES permit includes an average monthly load limit of 218 lbs/day and a maximum daily load limit of 413 lbs/day; this docket also limits the discharge to an average monthly effluent concentration of 50 mg/l and a minimum 85 % removal. See FINDINGS section & DECISION Condition II.s.

***See DECISION Condition II.t.

The following average monthly effluent monitoring for Outfall No. 002 is required by the DRBC and is not included in the NPDES permit.

EFFLUENT TABLE A-3: DRBC Parameters Not Included in NPDES permit for Outfall No. 002

Outfall 002		
PARAMETER	**LIMIT**	**MONITORING**
Total Suspended Solids*	Monitor & Report*	Monthly

* See DECISION Condition II.s.

B. FINDINGS

The purpose of this docket is to renew the approval of the docket holder's existing 0.20 mgd IWTP. There are no modifications to the existing IWTP proposed.

Total Suspended Solids (TSS)

The project IWTP was originally approved by the DRBC via Docket No. D-2005-001-1 on March 16, 2005, which included effluent limits for TSS. The docket included PADEP's NPDES permit effluent average monthly and maximum daily load limits in pounds per day (lbs/day) at Internal Monitoring Point (IMP) No. 010 (formerly Outfall No. 010). In addition to the NPDES effluent load limits, Docket No. D-2005-001-1 included TSS effluent limits of 30

mg/l (average monthly) and 45 mg/l (average weekly), along with a TSS removal rate requirement of 85%. Docket Nos. D-2005-001-2 and D-2005-001-3, approved on May 10, 2006 and December 12, 2007, respectively, continued these TSS concentration (mg/l) and percent removal requirements.

During the review of the Application, the docket holder submitted IWTP effluent data from 2009 – 2013 that indicates two (2) exceedences of DRBC's 30 mg/l (average monthly) and two (2) exceedences of 45 mg/l (average weekly) effluent limits at IMP No. 010. The docket holder indicated that percent removal for TSS was not monitored.

Section 3.10.4.D.1.a. of the DRBC Water Quality Regulations (WQR) include a basin-wide effluent limit for TSS of 30 mg/l as a 30-day average and 45-mg/l as a 7-day average. Section 3.10.4 D. 1. a. 2) allows for IWTPs discharging TSS concentrations greater than the 30 mg/l (30-day avg) and 45 mg/l (7-day avg) to discharge up to 100 mg/l if the IWTP also meets 85% removal rate.

The docket holder requested an average monthly effluent limit of 50 mg/l for the IWTP effluent at IMP 010, which is being approved via this docket, along with the requirement that the IWTP effluent meet 85% minimum removal (See EFFLUENT TABLE A-2). This docket also requires monthly TSS monitoring at Outfall No. 002 (See EFFLUENT TABLE A-3). After two (2) years of monitoring, the docket holder may request in writing to the Executive Director that TSS effluent limits and monitoring be modified, based on the monitoring results. See DECISION Condition II. s.

Total Dissolved Solids Determination

The Commission approved a monthly average TDS variance of 4,000 mg/l on May 10, 2006 via Docket No. D-2005-001-02. TDS is generated from the aluminum forming, extrusion, and washing process.

Section 3.10.4.D.2 of the DRBC's *Water Quality Regulations (WQR)* states:

> *"Total dissolved solids shall not exceed 1000 mg/l, or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives, and recognizes the need for reserve capacity to serve future dischargers."*

The Commission's basin-wide in-stream TDS criteria is that the receiving stream's resultant TDS concentration be less than 133% of the background (WQR Section 3.10.3.B.1.b.) and the receiving stream's resultant TDS concentration be less than 500 mg/l (WQR Section 3.10.3.B. 2.). The discharge is required to comply with the more stringent of the above in-stream criteria.

The 133% of the background TDS requirement is for the protection of aquatic life. The 500 mg/l TDS requirement is to protect the use of the receiving stream as a drinking water source. The EPA's Safe Drinking Water Act secondary standard for TDS is 500 mg/l.

According to the PADEP, the estimated seven-day low flow with a recurrence interval of ten years (Q_{7-10} flow) of the West Branch Schuylkill River immediately upstream of the IWTP discharge (Outfall 002) is 9.1 cfs (5.9 mgd). In-stream TDS sampling performed by the docket holder during the review of their previous TDS determination resulted in an estimated background TDS concentration for the West Branch Schuylkill River just upstream of the IWTP discharge of 427 mg/l.

The TDS determination performed during the review of Docket No. D-2005-001-02 utilized a flow rate of 0.10 mgd and a Q_{7-10} flow of the West Branch Schuylkill River of 11 mgd (17 cfs). Since the hydraulic design flow of the IWTP is 0.20 mgd, an analysis was performed using 0.20 mgd as the flow for the IWTP. Additionally, the Q_{7-10} flow is updated to be 9.1 cfs (5.9 mgd), as provided by the PADEP in draft NPDES Permit No. PA0012726.

Commission staff calculates that a discharge flow of 0.20 mgd from the IWTP (Monitoring Point No. 010) and a maximum daily concentration of 4,000 mg/l of TDS at Q_{7-10} conditions results in an in-stream TDS concentration of 544 mg/l. 544 mg/l exceeds the 500 mg/l in-stream EPA drinking water standard.

The previous DRBC dockets approved a concentration of up to 4,000 mg/l at a flow rate of 0.10 mgd. The equivalent load for this flow and concentration is 3,336 pounds per day (lbs/day). During the review of the Application, DRBC staff evaluated this load at the updated design rate of 0.2 mgd. At the hydraulic design rate of 0.2 mgd, the equivalent concentration for a load of 3,336 lbs/day is 2,000 mg/l. Based on a review of IWTP effluent data for the past four (4) years provided by the docket holder, the maximum monthly TDS concentration was 1,140 mg/l and the maximum monthly flow rate was 0.1832 mgd.

Commission staff calculate that a discharge flow of 0.20 mgd from the IWTP (Monitoring Point No. 010) and a maximum daily concentration of 2,000 mg/l of TDS at Q_{7-10} conditions results in an in-stream TDS concentration of 479 mg/l. 479 mg/l is 112% of the background TDS concentration for the West Branch Schuylkill River. Under a maximum daily TDS concentration of 2,000 mg/l and IWTP design flow of 0.20 mgd, both the 500 mg/l in-stream EPA drinking water standard and 133% of background for the protection of aquatic life are satisfied. Also, the maximum TDS load is maintained from the previous DRBC approval.

This docket continues the approval of a TDS variance; however, the maximum daily effluent limit is reduced from 4,000 mg/l to 2,000 mg/l. This effluent limit is applied at the IWTP effluent monitoring point (Monitoring Point No. 010). See EFFLUENT TABLE A-2 in Section A.4.d and DECISION Condition II.p. of this docket.

At the docket holder's IWTP discharge location, the Q_{7-10} flow of the West Branch Schuylkill River is 9.1 cfs (5.9 mgd). The ratio of this low flow (5.9 mgd) to the design discharge rate from the 0.20 mgd IWTP is approximately 30 to 1.

The nearest downstream surface water intake of record for public water supply is located on the Schuylkill River approximately 65 miles downstream of the docket holder's IWTP, and is owned and operated by the City of Pottstown.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

The effluent limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the Commission's *WQR.*

C. DECISION

I. Effective on the approval date for Docket No. D-2005-001-4 below, Docket No. D-2005-001-3 is terminated and replaced by Docket No. D-2005-001-4.

II. The project and appurtenant facilities as described in the Section A "Physical features" of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP in its NPDES permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's.

b. The facility and operational records shall be available at all times for inspection by the DRBC.

c. The facility shall be operated at all times to comply with the requirements of the Commission's *WQR*.

d. The docket holder shall comply with the requirements contained in the EFFLUENT TABLES in Section A.4.d. of this docket. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email **aemr@drbc.state.nj.us** on the **Annual Effluent Monitoring Report Form** located at this web address: http://www.state.nj.us/drbc/programs/project/application/index.html. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations.

e. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.

f. If at any time the receiving treatment plant proves unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.

g. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

h. The docket holder is permitted to treat and discharge wastewaters as set forth in the Area Served Section of this docket, which incorporates by reference Sections B (Type of Discharge) and D (Service Area) of the docket holder's Application to the extent consistent with all other conditions of this DECISION Section.

i. The docket holder shall discharge wastewater in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

j. No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

k. Nothing in this docket approval shall be construed as limiting the authority of DRBC to adopt and apply charges or other fees to this discharge or project.

l. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.

m. Unless an extension is requested and approved by the Commission in advance, in accordance with paragraph 11 of the Commission's Project Review Fee schedule (Resolution No. 2009-2), the docket holder is responsible for timely submittal of a docket renewal application on the appropriate DRBC application form at least 12 months in advance of the docket expiration date set forth below. The docket holder will be subject to late charges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below (or the later date established by an extension that has been timely requested and approved), the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

n. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

o. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the Delaware River Basin Compact, cases and controversies arising under the Compact are reviewable in the United States district courts.

p. The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.

q. Nothing in this docket constitutes a defense to any penalty action for past conduct of the docket holder or ongoing activity not authorized by this approval. In particular, renewal of this docket does not resolve violations – whether in the past or continuing – of provisions of the Delaware River Basin Compact ("Compact") or any rule, regulation, order or approval duly issued by the Commission or the Executive Director pursuant to the Compact. The Commission reserves its right to take appropriate enforcement action against the docket holder, including but not limited to recovery of financial penalties consistent with Section 14.17 of the Compact, for any and all such prior or continuing violations.

r. The docket holder is prohibited from treating/pre-treating any hydraulic fracturing wastewater from sources in or out of the Basin at this time. Should the docket holder wish to treat/pre-treat hydraulic fracturing wastewater in the future, the docket holder will need to first apply to the Commission to renew this docket and be issued a revised docket allowing such treatment and an expanded service area. Failure to obtain this approval prior to treatment/pre-treatment will result in action by the Commission.

s. The docket holder is required to monitor Outfall No. 002 and IMP No. 010 for TSS in accordance with EFFLUENT TABLES A-2 & A-3 contained in Section A.4.d of this docket. After completing two (2) years of monitoring, the docket holder may request in writing to the Executive Director that TSS effluent limits and monitoring be modified, based on the monitoring results.

t. The docket holder must perform BOD_5, Ammonia-Nitrogen, and Fecal Coliform monitoring in accordance with EFFLUENT TABLE A-2 contained in Section A.4.d. of this docket. After completing two (2) years' worth of acceptable tests, the docket holder may request in writing to the Executive Director that monitoring for these parameters be reduced, based on the monitoring results.

BY THE COMMISSION

DATE APPROVED: **March 11, 2015**

EXPIRATION DATE: **July 31, 2018**